

# PATENT SPECIFICATION

(11)

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- (21) Application No. 27768/75 (22) Filed 1 Jul. 1975  
 (31) Convention Application No. 7423117 (32) Filed 3 Jul. 1974 in  
 (33) France (FR)  
 (44) Complete Specification Published 24 May 1978  
 (51) INT. CL.<sup>2</sup> B60N 1/06  
 (52) Index at Acceptance  
     A4J 2A3A1 2A4B1 2A4X 2A5A 2A6C 2A6Y  
     2A9D2 2A9F1 2A9FY 2A9H 2A9X 2A9Y  
     2CX  
     A4U 6

(19)



## (54) A SEAT HAVING SIDE PORTIONS

(71) We, REGIE NATIONALE DES  
 USINES RENAULT, a French Body Corporate  
 of 8/10 Avenue Emile Zola, Boulogne-  
 Billancourt, Hauts de Seine, France, do hereby  
 declare the invention, for which we pray that a  
 patent may be granted to us and the method by  
 which it is to be performed to be particularly  
 described in and by the following statement:-

The present invention relates to a seat having  
 side portions.

A seat of which the backrest and the seat  
 squab carry side portions which are adjustable  
 against the force of a return spring is disclosed  
 in British Patent No. 1,341,769. Each side  
 portion carries to this end a sliding friction  
 lining adapted to be clamped between two  
 plates.

The side portions of the seat element are  
 thus normally locked and reduce the driving  
 comfort if applied to an automobile seat frame  
 structure, notably in case of uncontrolled  
 movements of the user's trunk or pelvis for  
 example when driving along a sinuous road and  
 when negotiating sharp turns.

According to the present invention there is  
 provided a seat comprising a seat part having  
 side portions disposed one on each lateral side  
 of the seat part, the seat part comprising a main  
 frame to which are connected respective  
 auxiliary frames of the side portions, which are  
 spring-loaded to pivot towards one another, the  
 pivotal movement of each auxiliary frame being  
 limited by control means comprising a traction  
 member which is arranged to resist the spring-  
 loading of the auxiliary frame when the  
 auxiliary frame is in an end position, each  
 traction member being adjustable to vary the  
 end position by means of a screw mechanism.

In an embodiment of the present invention  
 there is provision for adjusting the side portions  
 which permits both a continuous adjustment of  
 these portions to conform to the occupant's  
 body configuration and size and a certain  
 degree of yielding of these portions under the  
 pressure of the passenger's body. The side  
 portions may be provided on the backrest or

the seat squab, or both.

Other features and advantages of this  
 invention will appear as the following descrip-  
 tion of a typical exemplary form of  
 embodiment thereof proceeds with reference to  
 the attached drawings, in which:

Figure 1 is a perspective view of a frame  
 structure of a seat;

Figure 2 is a side elevational view showing on  
 a larger scale a part of the frame structure; and

Figures 3, 4, 5 and 6 are sections taken along  
 the lines III-III, IV-IV, V-V and VI-VI of Figure  
 2, respectively.

The seat illustrated in Figure 1 comprises a  
 main frame 1 for the seat squab or cushion seat  
 part and another main frame 2 for the  
 backrest-forming seat part. The components of  
 the frame 1 are not described in detail since  
 they are no part of the present invention.

The frame 2 of the backrest is connected to  
 the frame 1 of the squab by means of movable  
 fittings 3 and 3' connected by a rod 4  
 responsive to a mechanism of a known type  
 comprising a control knob 5 for adjusting the  
 backrest inclination.

The frame 2 comprises a pair of side frame  
 members 6, 6' supporting auxiliary frames 7  
 and 7' of side portions of the backrest. Each  
 auxiliary frame such as frame 7, illustrated in  
 Figure 2, is secured to its side member 6 by  
 means of an upper strap 8 and a lower strap 9  
 comprising each a pair of arms 10 connected to  
 the side member 6 by means of bolts 11. These  
 straps 8 and 9 carry each a pivot pin 12 and 13,  
 respectively, welded to the straps. These pivot  
 pins 12, 13 engage arms 14, 14' of the auxiliary  
 frame 7. A bent control finger 15 is welded to  
 the lower arm 14' of the auxiliary frame and  
 the shape of this finger 15 is such that it  
 extends partly around the frame 2 of the  
 backrest seat part, more particularly its side  
 member 6. The auxiliary frame 7 is spring-  
 loaded by a return spring consisting in this  
 example of a torsion bar 16 having its end  
 portions bent at right angles to the rest of the  
 bar and secured to the auxiliary frame 7 by a

lug 17 and to the side member 6 by direct engagement therewith, respectively. The main portion of torsion bar 16 extends substantially parallel to the pivot axis of frame 7. The function of this torsion bar is to urge the auxiliary frame 7 towards the centre line of the seat and towards the other auxiliary frame 7', its endmost permissible position being limited by the engagement between the finger 15 and the side member 6 at point R.

A control mechanism for adjusting the angular position of the auxiliary frame comprises a traction member 18 consisting of a wire having one end anchored to the finger 15 and the opposite end attached to a nut 19 adjustable by means of a screw mechanism. The nuts 19 corresponding to the traction wires 18 of the two auxiliary frames engage two spaced screw-threaded sections of opposite hand formed on a common control rod 20 which is rotatably mounted on the movable fittings 3 and 3' and lies parallel to and near to, the pivot rod 4 of the backrest seat part. Furthermore, these nuts 19 are guided for translation along guide rods 21 forming inserts on the fittings 3 and 3'. Thus, it will be seen that each traction member 18 is adapted to exert a positive retaining action upon the corresponding auxiliary frame 7, to resist the biasing force exerted by the torsion bar 16.

Preferably, the control finger 15 is located as close as possible to the nut 19 so as to reduce the length of the traction member 18. The control screw-threaded bar 20 will thus enable the occupant of the seat to adjust at will the end position of the lateral, upholstered side portions while permitting the elastic yielding and return of these members when necessary, for instance during movements imposed by particular driving conditions to the occupant's body.

It would not constitute a departure from the basic principles of this invention to substitute pivoted links for the wires 18; in this case, the links would have one end pivoted to the nuts 19 and the other end provided with a slot for engagement with the control finger 15, whereby the side portions can be adjusted as in the preceding example while allowing a certain yielding thereof and an elastic return when necessary.

Alternatively, the screw mechanism, instead

of being of the screw and nut type, could consist of a worm and worm wheel, which may be reversible, the tangent wheel being in this case rigid with a pulley for winding the corresponding traction wire.

Of course, the adjustable side portions could be provided on the seat rest squab, if desired.

#### WHAT WE CLAIM IS:

1. A seat comprising a seat part having side portions disposed one on each lateral side of the seat part, the seat part comprising a main frame to which are connected respective auxiliary frames of the side portions, which are spring-loaded to pivot towards one another, the pivotal movement of each auxiliary frame being limited by control means comprising a traction member which is arranged to resist the spring-loading of the auxiliary frame, when the auxiliary frame is in an end position, each traction member being adjustable to vary the end position by means of a screw mechanism.

2. A seat according to claim 1, in which the screw mechanism comprises a rod mounted on the seat part and having two screw-threaded sections of opposite hand which are engaged by respective nuts which are guided for translation and are connected to the respective traction members.

3. A seat according to claim 1 or 2, in which each auxiliary frame carries a control finger extending partly around a frame member of the main frame, one end of the finger being connected to the traction member, the other end of the finger co-acting with the main frame to constitute a stop defining a limiting end position of the auxiliary frame.

4. A seat substantially as described herein with reference to the accompanying drawings.

HASELTINE LAKE & CO.,

Chartered Patent Agents,

Hazlitt House,

28, Southampton Buildings,

Chancery Lane,

London, WC2A 1AT

and at

9, Park Square,

Leeds, LS1 2LH

and at

Temple Gate House, Temple Gate,

Bristol, BS1 6PT

(Agents for the Applicants)

Fig- 1



